

WHAT IS CLAIMED IS:

1. A method for authenticating an authentic article having an authentication mark, comprising the steps of:
  - (a) acquiring a set of spectral images of at least a part of the authentication mark;
  - (b) forming a set of single-authentication mark spectral fingerprint data from said set of acquired spectral images of said imaged authentication mark;
  - (c) identifying at least one spectral shift in said set of single-authentication mark spectral fingerprint data associated with said imaged authentication mark, for forming an intra-authentication mark physicochemical region group including a plurality of sub-sets of intra-authentication mark spectral fingerprint pattern data, such that value of at least one selected data element in each said sub-set is shifted relative to value of each corresponding said data element in each remaining said sub-set in same said intra-authentication mark physicochemical region group;
  - (d) forming a set of intra-authentication mark physicochemical properties and characteristics data relating to said imaged authentication mark, by performing pattern recognition and classification analysis on said intra-authentication mark physicochemical region group of said imaged authentication mark; and
  - (e) comparing and matching values of elements in said set of intra-authentication mark physicochemical properties and characteristics data relating to said imaged authentication mark to values of corresponding reference elements in a reference set of intra-authentication mark physicochemical properties and characteristics data of the authentic article, thereby authenticating the authentic article.